

LISTING OF THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. - 8. Canceled

10. (New) A method for detecting a flame, said method comprising:
receiving a stream of individual digital images;
filtering each of said individual digital images; and
producing a movement band image, said movement band image displaying changes in said stream of individual digital images within a predetermined frequency band after said step of filtering is performed on a plurality of said individual digital images, and wherein said predetermined frequency band identifies at least one characteristic of the flame.

11. (New) The method of claim 1 wherein said step of filtering comprises:
creating a first generated image and a second generated image from each of said individual digital images;
applying a filter having a first frequency to said first generated image;
applying a filter having a second frequency to said second generated image, wherein said first frequency and said second frequency are different, and said first frequency and said second frequency and comprised in said predetermined frequency band; and
combining said first filtered generated image with said second filtered generated image to produce said movement band image.

12. (New) The method of claim 1, further comprising applying a threshold value to each pixel in each of said individual images to develop a threshold map, wherein said movement band image comprises a predetermined number of pixels, and wherein said threshold map is used to determine a relative value of each pixel with respect to said threshold value.

13. (New) The method of claim 12, further comprising generating a binary image from said threshold map.

14. (New) The method of claim 13, further comprising assigning an awareness level value to each pixel of said threshold map, wherein said awareness level value increases in response to changes in said pixel values in successive individual digital images which intersect said threshold value, and wherein said awareness level value represents an indication of the flame.

15. (New) The method of claim 13, further comprising detecting at least one characteristic of the flame by determining a ratio of sparseness and edge to volume in said binary image.

16. (New) The method of claim 15, further comprising detecting an area of at least one characteristic of the flame in said binary image from said threshold map by identifying changes in a pixel value in successive digital images in said stream of digital images which intersect said threshold value.

17. (New) The method of claim 16, further comprising calculating a ratio of sparseness and edge to volume by analyzing pixel values in said binary image with said area of at least one characteristic of the flame.

18. (New) The method of claim 17, further comprising determining whether to sound an alarm after performing said step of calculating said ratio.

19. (New) The method of claim 17, further comprising differentiating whether said area of at least one characteristic comprises an image of one of moving trees and a flame.

20. (New) The method of claim 12, further comprising generating a binary awareness map, said binary awareness map representing a subset of said threshold map and indicating a change to a pixel value in said threshold map that is greater than said threshold value when pixel values in successive images in said stream of images intersect said threshold value.

21. (New) The method of claim 1, further comprising classifying changes in successive individual images in said stream of images to represent one of a flicker and a non-flicker.

22. (New) The method of claim 1, wherein said stream of digital images originates from one of live and recorded video.

23. (New) A method for processing a sequence of digital video images to detect a flame, said method comprising:

monitoring a stream of images and creating a new image having a predetermined number of pixels;

5 developing a threshold map, said threshold map generated by applying a threshold value to each pixel of each image in said stream of images wherein said threshold map determines a relative value of each pixel with respect to said threshold value; and

10 generating an awareness map from said threshold map to detect a sequence of images of flames, wherein said awareness map indicates at least one change in values of pixels in successive images in said stream of images that cross said threshold value.

24. (New) The method of claim 23, further comprising allocating an awareness level value to each pixel of each image in said stream of images, wherein said awareness level value increases when said at least one change is detected, and analyzing a plurality of said awareness level values to generate a fire detection indicator.

25. (New) The method of claim 23, further comprising classifying changes in successive individual images in said stream of images to represent one of a flicker and a non-flicker.

26. (New) The method of claim 23, wherein said stream of digital images originates from one of live and recorded video.